

# DOE RADIOLOGICAL ACTIVITIES IN AREA IV



## Systems for Nuclear Auxiliary Power (SNAP):

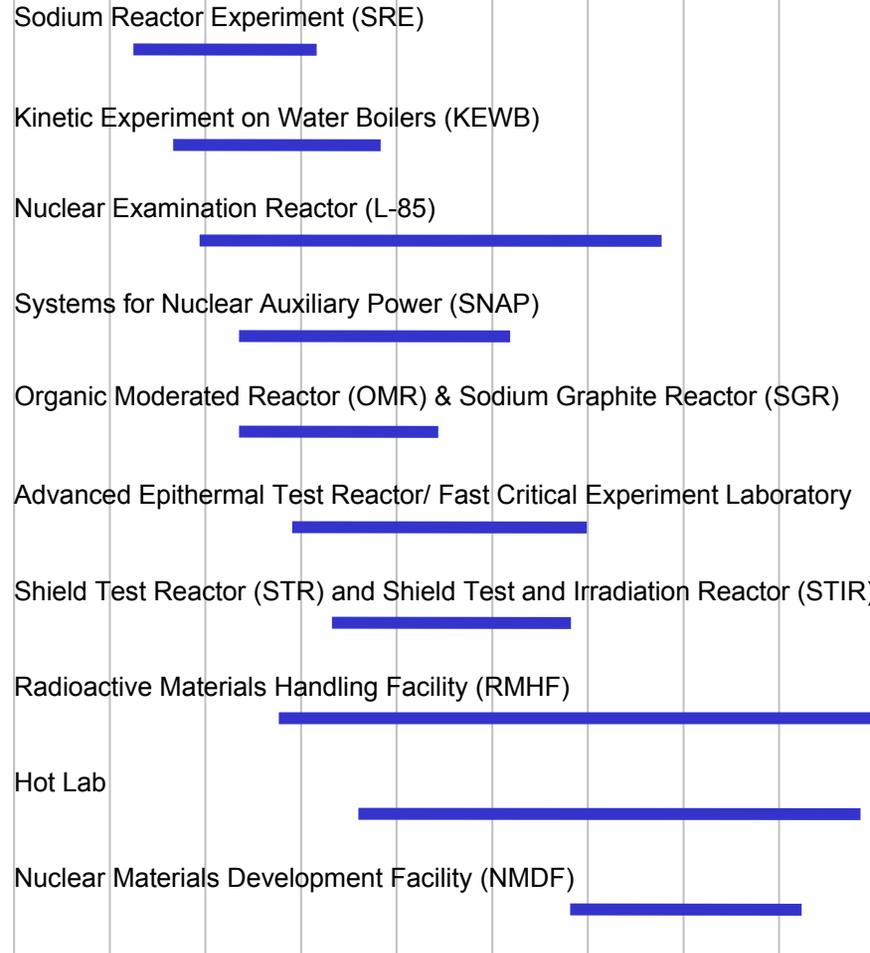
- Atomic International (AI) program to develop space nuclear power systems.
- A system was launched from Vandenberg Air Force Base on April 3, 1965.
- Remains the only nuclear reactor placed in space by the U.S.



## The Hot Lab:

- Used for 30 years to handle, examine, and disassemble highly radioactive items.
- Activities done remotely in heavily shielded rooms.
- Decontaminated and decommissioned in the mid-1990's.

1950 1955 1960 1965 1970 1975 1980 1985 1990 1995



## Sodium Reactor Experiment (SRE):

- Atomic Energy Commission program to test a sodium-cooled power reactor.
- Supplied power to the City of Moorpark.
- The first nuclear reactor in the U.S. to produce power for a commercial power grid.
- Partial melting of 13 of the 43 reactor fuel assemblies occurred in 1959, which released nuclear gasses.



## The Radioactive Materials Handling Facility (RMHF):

- Used for packaging radioactive material for offsite disposal.
- Septic tank leach field was contaminated by cesium and strontium in 1962.
- Leach field was cleaned up and released for unrestricted use.
- RMHF remains in use supporting the cleanup of other facilities.

# THE CYCLE OF A NUCLEAR REACTOR FACILITY



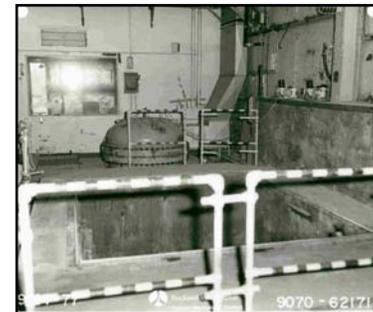
The containment vessel is put in place.



A foundation is built around the vessel.



Vessel is enclosed in a building.



All systems running.



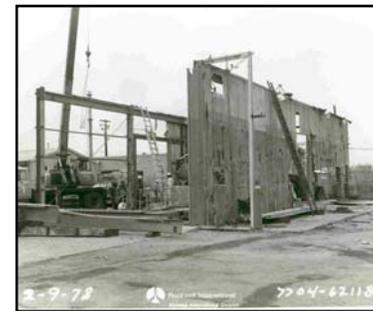
Facility no longer needed. Demolition begins.



The vessel is isolated.



Radioactive material is packaged for disposal.



The building is removed.



The vessel and concrete are removed.



The vessel is hauled off-site.



Soil is tested.

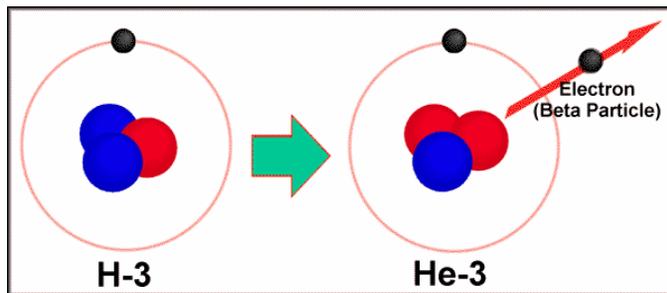


The site is graded flat.

# COULD I BE EXPOSED TO TRITIUM FROM AREA IV?

## WHAT IS TRITIUM?

- A radioactive form of hydrogen.
- Often found in water molecules, when a tritium atom replaces a hydrogen atom.



## WHAT ARE THE HEALTH EFFECTS?

- Potential health risk if you drink water containing tritium above safe levels.
- Tritium emits a weak type of radiation and leaves the body relatively quickly.
- It is considered to be a low risk radioactive material.
- High exposures to tritium could cause cancer.

## COULD I BE EXPOSED TO TRITIUM?

- The tritium was found in groundwater in a rugged area of SSFL..
- This groundwater is not used for drinking water.

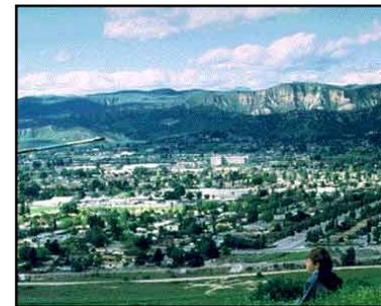


## WHAT LEVELS HAVE BEEN FOUND?

- Hundreds of groundwater samples on- and off-site.
- To date (4/04), one well had tritium above the drinking water standard.

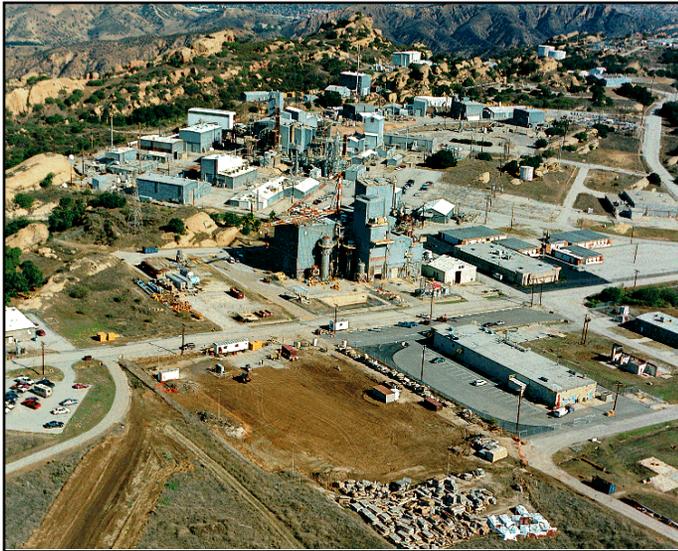
# NEXT STEPS

1. Install more groundwater wells.
2. Continue with data gap analysis to ensure good spatial coverage of sampling.
3. Update the community on site activities by September 2004.



***DOE is committed to cleaning up the site.***

# RESTORING SANTA SUSANA AREA IV



Removing  
buildings



Cleaning  
groundwater



Cleaning soil



**Where we started...**

**...where we are headed!**